THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

$2.00 PER YEAR. ESTABLISHED 1878. 10c. SINGLE COPY.

VOL. XVIII. CLEVELAND, OHIO, JULY 11, 1895. NO. 28

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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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EFFECT OF SHALLOW WATER ON THE SPEED OF VESSELS.

Mr. D. W. Taylor, at the last meeting of the Institution of Naval Architects, read a paper bearing upon this subject under the title "Solid Stream Forms and the Depth of Water Necessary to Avoid Abnormal Resistance of Ships," in which he stated that as the speed increases the wave resistance becomes more and more important, and hence the influence of shoal water upon resistance becomes more and more marked. Experience has established the fact that in water only three times, or less, than the draught of a ship, it is materially retarded, but he has been unable to discover any authentic case of retardation having been noted where the depth was as much as six times the draught amidships. It would appear also that very broad ships would require a slightly greater depth of water for the same draught than ships of ordinary proportions, but the difference cannot be great. In this no account of speed is taken. It is a matter of common experience that depth of water has its greatest effect upon resistance at high speeds, and that for a given ship the resistance at low speeds is not appreciably affected in a depth where at high speeds the same ship is materially retarded. This is simply because shoal water produces but little effect upon any but wave resistance, and at low speeds the wave resistance is such a small part of the whole that its increase on account of shoal water is negligible in comparison with the total.

N. ATLANTIC WEATHER.

The Hydrographic Office pilot chart of the North Atlantic for July, besides other interesting features, presents a complete series of monthly fog charts of the ocean during 1894, which year, it is stated, may be taken as a typical one to illustrate the fog areas at the different seasons. An illustration of weather and cloud distribution in the neighborhood of a cyclonic storm is likewise very interesting. Generally fair weather with moderate to fresh winds, is predicted for the month of July but please look out for August as it appears that the eighth month of the year is the worst for fogs although otherwise the weather is agreeable.

INSTITUTION OF NAVAL ARCHITECTS.

At the summer meeting of the Institution of Naval Architects held this year in Paris, many valuable subjects were ably treated upon and the session was pronounced as the best ever held. M. Emile Bertin, Chief of Construction in the French Navy contributed a paper entitled, "The Amplitude of Rolling on a Nonsynchronous Wave." Sir Wm. White and Mr. Martell dwelt upon the efficiency of bilge keels in large as well as in small ships. Sir William White also contributed a paper on "Wood and Copper Sheathing for Steel Ships." Water tube boilers occupied a considerable portion of the session, two papers on this subject having been contributed one by M. A. Normand, the well-known torpedo boat builder of Havre and the other by Mr. Mark Robinson of Thames Ditton entitled the "Niclausse Bailer."

NOTICE TO MARINERS.

Notice is hereby given that a second-class can buoy painted black, has been established in 20 feet of water on the northeasterly extremity of the shoals off South Point, entrance to Milwaukee Bay, west coast of Lake Michigan.

The water between the buoy and South Point is foul, containing rocks with but 12 feet of water.

Small shoals with 17 and 18 feet of water lie ¾ mile S. by E. ¼ E. and 1 mile S. by E. ⅞ E. from the buoy.

Bearings (true) and distances from the buoy: Milwaukee (North Point) light-house, N. 14° 18′ W. (N. by W. ¼ W.) 5½ m. Milwaukee Pierhead light-house, N. 43° 43′ W. (N. W. ⅛ N.) 3⅞ m. Dome of St. Frances College N. 97° 58′ W. (W. ¾ S.) 1½ m.

By order of the Light-House Board.

COMMANDER J. H. DAYTON, U. S. N.,
Inspector Ninth Light-House District.

THE BALTIC SHIP CANAL.

Germany does well to make the formal opening of the great Baltic ship canal a ceremonial affair of the first magnitude, says the London *Review*. When ships of the largest burden can pass by a protected short cut of sixty miles' length from the North sea to the Baltic the ugliest as well as the oldest problem of north European navigation will have been solved. Incidentally it will destroy what little remains of Denmark's commercial importance.

Copenhagen has endeavored to forestall disaster by making itself into a free port and spending large sums of money upon dock and harbor improvements; but we fear, all in vain. It is incredible that any shipping will hereafter be sent into Danish waters, to round the tiresome Jutland peninsula and brave the dangers of the treacherous passage of the sound, which can take advantage of the shorter and entirely safe route across Holstein. Where the commercial supremacy of the Baltic will resettle itself when once it quits Copenhagen is not clear. Hamburg is very confident about its own succession to those rich honors. Ancient Lubeck is projecting an Elbe-Trave canal by means of which she hopes to divert the increased traffic and wealth to herself.

The Courland port of Libau has spent £250,000 in enlarging its facilities for the competition and even St. Petersburg, which, with its new deep-water dock in the Neva, becomes a seaport this year for the first time, has visions of maritime greatness based on the novel rearrangement of trade currents. While these rival claims are as yet in the air the advantages to British shipping are tangible and immediate. Not least among these advantages may be counted the increased incentives to peace which the financial importance of keeping this great canal open will give to the German empire.

THE AMERICA'S CUP.

This international race will probably take place in American waters next September. In both countries new yachts have been specially built for the race. The American yacht is aptly named the Defender. Built by the Herreshoff's. She is a sloop yacht, and measures about 126 feet over all, and between 89 feet and 90 feet at the water-line. She has no auxiliary centre-board forward, but is a keel boat. She has a 35-foot lead bulb, weighing 60 tons. The upper portion of her plating is of aluminum, and the deck beams are of the same material. She is expected to carry nearly 13,000 square feet of canvas. Her mast will be 102 feet long, her boom 102 feet, and her spinaker pole 72 feet. The British yacht Valkyrie (the third of the name) that has been built to meet the Defender, belongs, it is said, to a syndicate, of which Lord Dunraven is the managing owner. She was built at the yard of D. & W. Henderson, Glasgow, from the designs of Mr. G. L. Watson, and was launched last month. Her length over all is 130 feet, and on the water-line 90 feet. The Valkyrie is a larger vessel than either the Britannia or the second Valkyrie, and will carry about 14,000 square feet of canvas.

NEWS AROUND THE LAKES.

CHICAGO, ILL.

Special Correspondence to The Marine Record.

The Michigan Wrecking Co., of Detroit, will proceed to raise the schooner John Shaw on a percentage of her value when raised.

The Buffalo police patrol steam yacht "Australasia," which left the builder's dock July 3, encountered last Sunday's storm on Lake Huron, putting into Oscoda for refuge. If any proof of her seaworthiness were necessary, the splendid manner in which she rode out the heavy storm, was conclusive. Her dimensions are 50 feet 9 inches over all, 10 feet 6 inches (outside of planking) molded depth, 4 feet 4 inches, draft 3 feet 6 inches. Her triple expansion condensing engine is 4½ 7 and 12, by 8 inches stroke, and boiler pressure 165 lbs. The Marine Iron Works, Chicago, have a duplicate of the "Australasia" in process of construction.

A table prepared by the Chicago Board of Trade shows the total amount of grain stored in the combined cities of Chicago, Duluth, Milwaukee, Detroit, Toledo and Buffalo to be 27,820,000 bushels of wheat and 5,499,000 bushels of corn.

At Miller Bros.' shipyard the tug John Torrent was in dock to have a leak stopped and repairs to her stern bearing; the tug M. Shields for some new bottom planking and re-calking; the steam yacht Volante for some work on her condenser, and the steamer H. W. Williams for repairs to stern bearing and stuffing box.

The steamer P. J. Ralph, Capt. Henry Leisk, is unloading a cargo of the best grade black horse coal at the O. S. Richardson Fueling Co.'s Market street dock.

The steamer Annie Laura is being fitted out by Capt. W. B. Hudson for O. S. Richardson, her new owner. Capt. Hudson will command her.

Palmer, Cook & Calbick chartered the steamer White & Friant and her consort the Lizzie A. Law for corn to Port Huron at 1 cent. Carr & Blair chartered the steamer Edward Smith No. 2 and consorts Marvin, Filmore and R. L. Fryer for corn to Port Huron at 1 cent; the schooner James G. Blaine for oats to Port Huron at 1 cent, the steamer Langell Boys and consort Comstock for corn to Port Huron at 1 cent.

The schooner Sunrise was sold last week by William T. Farwell of Chicago, to Henry Scheele, Jr., of Sheboygan, Wis., for the consideration of $6,000. The schooner Seaman, owned by Mr. Scheele, was taken by Mr. Farwell as part pay at $3,000 of the purchase money. Capt. Duncan Buchanan will command the Sunrise which is now one of the best schooners on the lakes. She will carry 30,000 bushels of corn or 550,000 feet of lumber. She received new gear and a new suit of canvas this spring and is in very good condition and we wish her owner and master lots of good luck with her.

William T. Farwell sold the schooner Seaman to Capt. A. Schuenemann, of Chicago, in exchange for about $3,000 worth of real estate.

The government dredge Farquahr, which has been working at Holland, commenced work Tuesday morning dredging the bar which has formed in the channel at the entrance of St. Joseph. Two years ago the steamer Ida E. ran into the north pier and broke nearly 100 feet out. It was temporarily repaired, but the large holes which were left allowed much sand to wash into the channel, until the bar extends nearly half-way across the river. The dredge Saginaw has been taken to Michigan City where it will work the remainder of the year.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

The Wilkenson elevator did not begin operations for this season until last Friday morning, when she took 100,500 bushels of wheat from the E. C. Pope.

The new police boat Australia, which has arrived from Chicago, was the last but one of the line of steam launches which plied in the World's Fair waters two years ago, the line which caused the failure of Charles P. Willard & Co., of Chicago. Capt. James Galvin, who was appointed her pilot has declined the position, preferring to remain with the Mills Dry-Dock. Capt. Henry Warwick, recently in the Ogarita, has been appointed to the post.

Engineer George Sutton and fireman Thos. Boyle were frightfully scalded last Wednesday evening by the crown sheet of the boiler of the tug William Stevens blowing out. The Stevens was acting as tender to Hingston & Wood's dredge, at work in the main channel of Niagara River. Sutton died the following day. He leaves a widow.

Surveyors Rice and Gaskin have decided that the burned steamer Runnells is so badly burned aft that a re-build is necessary, but forward she is all right. The repairs, however, are very difficult and will cost in the neighborhood of $20,000.

The loss on the steamer Linden, which went ashore with her first cargo several weeks ago, is estimated by the surveyors at $10,380.

Dan H. Wilcox, formerly with the Anchor Line, and later with the Western Transit Co., has formed a partnership with E. T. Hitchcock, the insurance adjuster, and they will conduct an insurance and vessel brokerage business under the name of Hitchcock & Wilcox. Both are well known in marine circles and will undoubtedly be successful from the start.

A Canadian dredge is removing some loose stone from the Niagara's dock at Fort Erie.

The new gas buoy may be placed on Horseshoe Reef. The excursion boats will be benefitted by this, as well as the large freighters. The excursion steamers frequently try to run inside the reef and some have come to grief there.

The dispatch sent broadcast by the Lake Marine News Association that Capt. Frank Williams, formerly of the Western line, had been given command of the Maruba, is denied at Cleveland where the boat is owned. Capt. Hoffman is still in command.

D. Fraser, shore engineer of the Northern Steamship Co. is preparing for a series of tests on the big steamers North West and North Land with a view to securing accurate data regarding speed, engine and boiler performance, etc., under various conditions. He will probably be assisted in the work by George C. Shepard, of Cleveland, who I learn is quite a figurer.

Capt. E. B. Petrie thinks of looking up the iron steamer Brunswick, which was sunk off Dunkirk in 1880 by collision with the schooner Carlingford.

The Curtis tow made the round trip between Buffalo and Marinette in 10 days and 20 hours. The tow loaded lumber at Marinette and arrived here Sunday. The Curtis with her three barges, has made five trips in 60 days.

The boat that David Bell has been building for the Lehigh Valley was launched the other day. She went pretty deep into the mud but was pulled out all right, and promises to be a very tidy little craft.

The marine insurance men are beginning to feel "pretty well, I thank you" again, as June has given them time to do something else beside pay losses. June disasters were very few in number and not very serious.

The barge American Giant came in from Long Point Sunday, with the machinery of the steamer Newburgh, which was wrecked there two or three years ago.

The steamer George King struck bottom while "rounding the horn" in Buffalo creek Saturday evening. She is now in the Mills dry dock for repairs to her forefoot, which was partly torn away.

The steamer Neosho is in the Union dry dock. The Norseman is also getting general repairs there.

The new owner of the Periwinkle has a force of men busy overhauling the boat, and she promises to be in first-class condition in every respect before she leaves Buffalo.

The harbor and canal committee of the Merchants' Exchange met Tuesday afternoon to discuss and take action on the sea wall strip question. Mayor Jewett and several property owners were present and participated. Five members from the wharves and harbor committee of the Council also attended. Capt. M. M. Drake presented and explained plans for a proposed dock at the foot of Porter avenue and Jersey street. The plan as outlined provides for dockage sufficient for 12 steamers, and makes provision for street car service, with a large pavilion on the dock for shelter. He did not favor the city building the docks. Mayor Jewett does not think much of the sea wall proposition, but seems to favor heartily the proposition to build docks on this site.

DETROIT, MICH.

Special Correspondence to The Marine Record.

The steambarge Lily, tug Minnie and scow F. X., have been getting general repairs in the upper dry dock.

Robert Wallace, of this city, has been awarded the contract, at $9,200, for the construction of the Round Island light station.

Horn Bros. have bought the tug Arthur Jones, which has been engaged at Menominee Harbor this season, and have brought her to Detroit.

The Star-Cole Line has issued an interesting book of 88 pages, devoted to describing and illustrating scenes on the St. Clair Flats and River. Traffic Manager C. F. Bielman has a supply on hand, which he will send to any address.

The John J. Long has been having her boiler overhauled at the Riverside Iron Works.

The seven captains in the employ of the Detroit, Belle Isle & Windsor Co. have been on Detroit River ferries, in one capacity or another, 21 years on the average. The oldest of them all, James Foster, of the Victoria, began 30 years ago; Michael McCune, of the Garland, tried it first 28 years ago; George Shanks, of the Pleasure, has been in the business 22 years; John Carey, of the Sappho, 20 years; George Horn, of the Fortune, 19 years; John Wilkinson, of the Promise, 18 years; John Foster, of the Excelsior, 12 years.

Mrs. Robert Kernahan, wife of the steward of the Darius Cole, died at Grace Hospital Saturday and was buried Sunday at Marine City. Many Detroit friends attended the funeral.

The lighthouse board has awarded a contract for lumber for the fog signal station at South Fox, Mich., light station to the J. P. Scranton Lumber Co., of this city, at their bid of $546.

The fishing tug Grayling was seized by Deputy Marshal Campau at Wyandotte, Monday night at the instance of the Wyandotte Boat Co. for a bill of $479 for repairs and material furnished.

The steamer Melbourne leaves Windsor Friday night for Toronto and Montreal, past the Thousand Islands, to which the Merchants line is making special rates.

CLEVELAND, O.

Special Correspondence to The Marine Record.

It is probable that in the near future passengers on the Detroit & Cleveland line steamers will be spared the necessity of the tedious climb up Superior street hill. A project is on foot to make a construction from the viaduct to its building, in which two elevators will run, giving people access to the docks without going down Superior street hill or climbing it again after landing. General Agent McIntyre states that the bridge, if everything can be arranged, will be about 78 feet long and 25 feet wide.

The D. & C. Line steamer City of the Straits, now regularly in the Put-in-Bay trade, gives three moonlight excursions out of this port each week on Monday, Wednesday and Friday nights.

It is becoming quite too frequent an occurrence for men to be killed or crippled at the ore docks. On Monday Matthew Manning, a worker at the docks, was struck on the head by an ore bucket and very seriously injured, he was at once taken to the hospital.

A fine excursion out of this port is to London and Port Stanley, Ont., nearly directly across the lake.

The steamer I. W. Nicholas, Capt. Wm. Gerlach, ran into the dock at Erie Monday. The vessel was not damaged, but the engineer, to whose mistake the accident was due, was peremptorily discharged.

Mr. Luther Allen, late president of the Chamber of Commerce and treasurer of the Globe Iron Works Co., is spending a short vacation on the New England coast.

The new revenue cutter, the construction of which has been placed with the Globe Iron Works Co., is to be named the Walter Q. Gresham.

The steamer Waldo Avery, rebuilt at Bay City, will be re-christened the Phœnix. She will be managed by the Phœnix Transportation Co., consisting of J. J. Rardon and others of Chicago.

The Post Boy will take no more excursions to Oak Point, as her license does not permit her to run more than 30 miles from Cleveland.

Complaints are made of the low stage of water at Lorain, vessels, it appears, are grounding there regularly.

The C. & B. Line will give an excursion on Sunday to Beach Park at Lorain, leaving here at 9 a. m. and returning at 6 p. m. The route covers 60 miles along the south shore of the lake.

Capt. John Rice, of Buffalo, representing the underwriters, and Capt. C. E. Benham, for the owners, held a survey on the capsized steamer St. Magnus, at the Cleveland dry dock on Tuesday. They were unable to agree on some matters, and Capt. McLeod was called in as a third party. The loss on the hull was agreed upon but the figures showing the loss on the machinery and outfit will not be made up until the machinery is examined by a master mechanic and his figures submitted to the surveyors. The loss on the vessel comprises a constructive total loss. A meeting of representatives of the owners and underwriters will be held, when it will be decided what will be done with the vessel concerning the underwriters' interests.

The small steamer Alpha built for the Cleveland Steel Canal Boat Co, was launched from the yards of the Globe Iron Works Co., on Saturday afternoon. The little steamer is only 90 feet keel, 18 feet beam and 10 feet depth of hold. She will be ready for business in two weeks and a couple of barges will be launched at about that time. The Alpha will tow two of the boats on Lake Erie, tugs will tow three others belonging to the company. In the Erie canal the Alpha will tow the entire fleet to New York and back. The new canal company are confident that the venture will be a successful one. They will carry grain down principally and bring back merchandise. Last spring a similar tow of boats was put in service between Erie and New York, and it proved a profitable enterprise and this Cleveland deal is also certain of doing.

The United States engineers at work this week examining the bottom of the breakwater basin, have found the submerged wreck, which the Say When is supposed to have struck. It lies but two feet under water and close to the harbor line, which extends about 450 feet from the end of the west pier. As the wreck lies mostly within the part of the basin under city control, it will not be removed by the government.

DULUTH, MINN.

Special Correspondence to The Marine Record.

Capt. W. H. Singer has purchased from the Louds, of Oscoda, the tug Excelsior and she has been placed in his new line, Capt. Edward England, of the Inman tug Record resigning to take command of her. The Excelsior was built in Buffalo in 1892, and has done considerable towing on Lake Erie. She is 83 feet in length, 19 feet beam and 10 feet hold, has a 24 by 28 engine, and carries 145 pounds of steam.

The tug Fisk is to be brought here and placed in the service of the Singer line.

The first shipments of Mahoning ore began this week. Superintendent Agnew "surmises" that this season's shipments will reach 150,000 tons, but the total will probably be much larger. This ore comes in over the Duluth and Winnipeg railroad, and is loaded on boats at Allouez Bay. The proprietors of the mine are interested in Mahoning Valley (Ohio) furnaces, and can send down their ore as rapidly as they like.

The Standard Ore Co. has transferred its entire interest in the leases of the Cincinnati and Hale mines to

the Minnesota Ore Co., which also holds an option from the feeholders. The amount paid for the leases is stated to be $55,000. Shipping from the Cincinnati mine will begin at an early date.

Friday night fire broke out in the storage house of the Western Transit Co., on Lake avenue. The building was occupied by Eckert, Williams & Co. and J. J. Hartley & Co. Both firms were burned completely out. The fire started in the stables of Eckert, Williams & Co. and spread the whole length of the building, destroying their stock of general commission, consisting of feed, grain, fruits and a cargo of flour worth $37,000, which had just been stored there. The loss on building and stock is said to be $100,000. The most of the goods were insured.

A report sent out from Washington that it is known that the Lake Superior-Mississippi River canal scheme is to be reported on favorably is classed as a fake by Maj. Sears, the government engineer of the Duluth district. He is in charge of the survey, which is now in progress, and says no intimation of what the character of the report will be has been or can be made to anybody. The survey is not completed, and until it is he does not know himself what his report will be.

PORT HURON, MICH.

Special Correspondence to The Marine Record.

The schooner Fanny Campbell (Br) has been fitted out at Sarnia by her owners, Messrs. Rielly & Buckley, and will engage in the pulp wood trade.

The level of Lake Huron is rising again, the water in St. Clair River being about three inches higher than a month ago.

The steamer Mary, which plies between Port Huron and Algonac, is doing a brisk side trade this season in setting people ashore from the big boats bound up and down the river, and in placing them aboard.

After making one trip the scow George Irving has been laid up to await more profitable freights.

Dry-dock work is very quiet here just now.

C. D. Thompson has brought suit against MacDonald & Rardon, of Chicago, for $15,000 on policies given by companies for which they are agents.

Coming up the river on Thursday evening the steamers Mary and Cole had a trial of speed, though the trip could in no sense have been regarded as a race. The Cole was leaving Marine City when the Mary arrived, and at St. Clair the Cole was half way to Somerville when the Mary left her dock. The Mary made the stop at Marysville, but the Cole did not. The steamers reached the foot of Court street "neck and neck."

George Shingler, better known as "Capt. Bob" Shingler among sailor men is wanted in Port Huron at once. His sister Martha died two weeks ago. Wire or write at once to Thomas B. Sovereign, Port Huron.

SAULT STE. MARIE, MICH.

Special Correspondence to The Marine Record.

Capt. David Tate entered upon his contract of taking care of the buoys on St. Mary's River Monday. To the *News* Capt. Tate said that he inspected them all this week. Capt. Tate will give his entire attention to the performance of the duties of his office, and he says the marine interests will have no further reason for complaint if keeping the buoys in their right places will avoid it. He asks the co-operation of vesselmen, and any complaint left at the canal office will have prompt attention.

Thos. Hickler's big dredge is taking out pieces of rock weighing many tons at the Encampment. It is an interesting sight.

Divers have been at work all week cleaning debris away from the miter sill at the lock.

Martin Lynch's contract for laying the floor on the new lock has been completed.

Dunbar & Sullivan have laid the keel for another large steel scow.

Dunbar & Sullivan's new steel dump scow, which they recently launched, is the first of her kind on the lakes, and cost $10,000. Her dimensions are 162 feet in length, 25 in beam, and 11 feet depth. The scow has eight pockets with an aggregate capacity of 400 yards. She is now on her way to Montreal, where she will be used in a dredging contract on the Lochine canal.

It is now stated that the Canadian canal may be opened by August 1.

Gen. Craighill, the new chief of engineers, U. S. A., vice Gen. Casey, retired, is expected here within a few days to inspect the new Sault locks, Hay Lake Channel improvement, and other government work.

DULUTH AND SUPERIOR.

Special Correspondence to The Marine Record.

Owing to the arrival of a large fleet of coal boats at the northwestern docks early this week, more than 250 men are busily at work. This number will not be reduced until toward the close of navigation.

Capt. D. Atkins, of Buffalo, one of the pioneer navigators of Buffalo and the first steamboat agent at Duluth was in the city this week. Capt. Atkins was aboard the propeller Independence, Lake Superior's first steamboat, on her first trip up the lake in 1846, nine years before the Sault canal was constructed.

Capt. Melcolm McEachren, who sailed the Iron Range Tug Ella G. Stone for several years, has signed a contract with the Inman line.

The *Iron News* predicts that two harbors ore shipments will reach 2,000,000 tons this season.

The Mahoning mine, on the Mesaba range began lake shipments late last week over the Allouez Bay dock, which has not been in use for 2 years. Seventy-five to 100 cars a day are being shipped.

June was a pretty light month for grain and flour shipments. Wheat shows the greatest falling off. Last month the shipments aggregatee 1,154,727 bushels, while a year ago they were 3,068,046 bushels for the same month. Flour shipments for the month were 846,674 barrels as compared with 930,204 a year ago.

As soon as orders are secured from the court, arrangements will be made for constructing the Duluth and Winnepeg merchandise dock on Allouez bay. As the road is in the hands of a receiver it is necessary to secure an order from the court before money can be spent in improvements. Supt. Ketchem says the is needed and will be built as soon as possible.

ASHTABULA HARBOR, O.

Special Correspondence to The Marine Record.

Capt. Fred. Elliott, of the tug Marion, was quietly married last week to Miss Florence, daughter of Daniel Curtiss.

June receipts of ore were 403,022 tons, and coal shipments 120,474 tons.

Two bridges of the new King portable conveying machines are completed and in working order. The two remaining bridges are being constructed very fast, so that in a very short time these machines will be ready. They differ somewhat from the other King machines in use on the same docks, by having cantilevers that will convey ore to stock piles and thus great labor and expense can be saved in transferring.

It has leaked out that Capt. Alexander McFarland, of the steamer Matoa, was married at this port on his last trip here. The Matoa left Saturday evening with the bridal party on board. The lady was Mrs. Lizzie McLaren, of Cleveland. Capt. McFarland has many friends who wish him and his bride happiness and prosperity. The former is certain and we can but hope for the latter although it is sure to come.

TOLEDO, O.

Special Correspondence to The Marine Record.

Harbormaster Skeldon has rebuilt the wharf at the foot of Monroe street, and it is the best wooden wharf in the city. Six inches have been left between the timbers in front that there may be free circulation of air, which will prevent the wood from decaying. The wharf is braced with cross ties dovetailed. Every eight feet there is a string of ties. The back walls are set on heavy piles.

McNally & Davis' pile driver is at work deepening the water at Craig's shipyard in order to make plenty of water for launching one of the big ferry boats being built there. The dry dock is also being made ready.

Coal traffic here continues very brisk, and a great deal of night work is being done to get vessels loaded with coal.

Mate Wallace King, of the steamer Dove, distinguished himself Sunday by rescuing a man who had fallen into the Maumee. The man was a peanut peddler, and it is noticed that there are now a great many peanut shells around the mate's quarters, and they are not always the masculine gender either.

Coon & Churchill, the grain commission merchants, have bought 3½ acres of ground on the river, and will erect an immense grain elevator.

BAY CITY, MICH.

Special Correspondence to The Marine Record.

The 400 foot steamer building at Wheeler & Co.'s yard for the Eddy-Shaw Co., of Detroit, will be launched about August 1.

The revenue steamer Fessenden has libeled the schooner Garibaldi, at Alpena, for failing to renew her license.

The lumber shippers have been holding meetings. They have some grievances against the railroads which may divert more of the lumber traffic to the water routes.

In an extra devoted to the discussion of West Bay City's leading industries, the Bay City *Tribune*, on the 3d inst., made extensive mention of the Wheeler and Davidson yards, as well as of the sail loft of C. J. Barnett.

CASUALTIES.

The small schoomer Viking left Muskegon on Monday morning with a crew of four men for a trip to Petoskey. They had not got fairly on their trip, when they encountered a stiff breeze from the northwest which developed into a gale by the time darkness set in. Shortly after dark they lost their rudder and about 10 o'clock the boat was driven ashore just off the Park pavilion, and cries of the men were heard by people assembled there. The Muskegon life-saving crew were soon in action and after several heroic attempts finally succeeded in landing the wrecked crew, who were in an exhausted condition. The vessel went to pieces shortly after the crew were taken off.

At Charlevoix, the Naiad was towed into the harbor on Tuesday night. Her captain reports that Andrew Mattson, the mate, who lived at Chicago, and Chris Abramson, a sailor, were carried overboard when the squall struck the schooner and were drowned. The two men were out on the bowsprit taking in sail when the squall struck the boat, and when the masts and bowsprit were torn away they were carried with them.

During the squalls on Sunday the small schooner Ida May Brown, of Charlevoix, was sighted north of Michigan city, in distress. The life-saving crew put out to her, and found she was loaded with gravel and waterlogged, the seas washing over her and filling the vessel through the cabin windows. The crew was rescued, but did not have time to save anything, as the schooner capsized within ten minutes after they were taken off. The crew consisted of Capt. John Devolt, of Charlevoix; Jud Cody, of Hersey, and William Nelson, of Benton Harbor. The boat pounded to pieces in the breakers and became a total loss.

FLOTSAM, JETSAM AND LAGAN.

W.T.Sutherland is master of the steam barge Superior.

The water in Toronto Bay is reported 25 inches lower than last year.

Patrick McTigue has bought the schooner Reindeer from Nelson Blair for $1,100.

Capt. Rowan has resigned from the Codorus and Capt. Dell Ryder now commands her.

The new revenue steamer for the New England coast will be named the Daniel Manning.

Capitalists are wanted to interest themselves in a steamer line between Holland and Milwaukee.

The Pintsch gas buoy off Erie was first lighted Sunday night. It was seen distinctly nine miles distant.

Racine has a tug war. The Racine Dredge Co. has bought the tug Waubun, and that boat and the Gillen have had several lively races out in the lake for tows.

It is estimated that Milwaukee has $5,000,000 invested in floating property and about the same amount in docks warehouses, elevators, and other methods for handling lake commerce.

Arrangements have been completed for the construction of a deep water harbor at Pransas Pass., Tex. The contract calls for 20 feet of water over the bar by January 22.

Search for the lost tug W. R. Crowell, which foundered while going to the relief of the stranded steamer Wheeler, near St. Joseph, Mich., about ten years ago, has been given up. The Crowell was worth $15,000 and was not insured.

The U. S. S. Michigan has been ordered from Detroit to Mackinaw to investigate reports of obstructions in the Straits and to continue the survey of the channels under direction of the Navy Department. This is in line with the Hydrographic Office on the lakes.

AMPLITUDES.

The following approximate amplitudes of the sun's rising will be given each week in this column during the season of navigation. A second bearing of the sun may be taken at sunset by reversing the bearings to read west instead of east, as for example, N. E. by E. for a sunrise bearing would read N. W. by W. for a sunset, or E. 30° N. to W. 30° N.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Bearing (degrees).	Bearing (points).
July 12	E. 30° N.	NE. by E. ¼ E.
July 19	E. 29° N.	NE. by E. ½ E.

LAKE ONTARIO, S. END HURON AND CENTER LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Bearing (degrees).	Bearing (points).
July 12	E. 31° N.	NE. by E. ¼ E.
July 19	E. 30° N.	NE. by E. ⅜ E.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Bearing (degrees).	Bearing (points).
July 12	E. 33° N.	NE. by E. ⅛ E.
July 19	E. 31° N.	NE. by E. ¼ E.

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Bearing (degrees).	Bearing (points).
July 12	E. 34° N.	NE. by E.
July 19	E. 32° N.	NE. by E. ⅛ E.

With a compass correct magnetic, the difference between the observed and true bearing will be the variation for the locality. If there is any deviation on the course the vessel is heading at the time of taking the bearing, the result after the variation is applied will be the amount of deviation on that course.

MARITIME LAW.

U. S. District Court, Southern District of New York:

PERSONAL INJURIES—FALL OF CARGO FROM SLING—INSUFFICIENT ROPE—NOTICE—CONTRIBUTORY NEGLIGENCE—Libelant while working in the hold of a steamship attending to the discharge of bags of coffee in slings, was injured by the fall of a bag, through the breaking of the wire rope by which the bag was being hauled up. The evidence showed that the weight of the bag in the sling was not half what the rope was expected to carry; that some time before the accident the attention of the second officer in charge of the deck was called to the frayed appearance of the rope when it ran through the lower sheave; that the angle at the upper sheave, where the rope subsequently broke, was sharper than the angle in the lower sheave. Held, that after this notice given to the officer in charge as to the fraying and weakening of the rope, its continued use was at the ship's risk, but as the libelant had been cautioned to keep away from the hatch during the raising of the sling, the injury was partly due to his own neglect, and he should recover but $850 and costs.

BROWN, J.

On the 17th of January, 1893, while the libelant was at work in the hold of Prinz Wilhelm I, attending to the discharge of bags of coffee in slings, his foot was badly hurt from the fall of a bag of coffee, through the breaking of a wire rope, by which the sling was hauled up. The weight of the bags in the sling was not half what the rope was expected to carry. No explanation of the breaking of the rope has been given, except its insufficiency.

The respondent claims that it was new; that it was bought of makers of the first-class, and that there was no negligence on the ship's part in that regard. There is some testimony to the effect that the rope was not new; but whether that be so or not, there is no doubt that about an hour, more or less, before this accident, the attention of the second officer, who was in charge of the deck at the time, was specially called to the bad appearance of this rope at the point where it passes through the lower sheave, and before reaching the drum of the winch on which it was wound. The plaintiff's evidence shows that not only had the rope there been flattened, but that many strands were broken and wires sticking out, so that persons tending the rope doubted its sufficiency. The officer after examining the rope spoke to the winchman in German, who immediately proceeded with the work, and no farther attention was given to the complaint.

The rope did not break at the spot pointed out, but at a point 18 or 20 feet farther away from the winch, where it passes through the upper sheave. This point was not examined, because at the time when the other defect was visible, it was not within convenient reach; but the angle of the upper sheave was much sharper than the angle in the lower sheave, where the defect had become visible. If the rope was a new one that morning, as the officers testify, there can be no doubt that it was not a rope that was fit for, or designed, for hauling cargoes at such angles as were in use. The testimony of the libelants', in my judgment, was not met by the respondent. The fraying and weakening of the rope at the lower sheave was a sufficient indication of the general unfitness of the rope for that use; and that the rope was probably still more frayed and weakened at the upper sheave, where the angle was sharper and the strain severer. After this express notice given to the officers in charge, I think the continued use of the rope was at the ship's risk, as regards any accident that might befall. The A. Heaton, 43 Fed. 592; The William Branfoot, 52 Fed.; 390. I do not credit the statement that the rope was broken short off. Not only is this in the highest degree improbable, but it would also afford almost certain proof that the rope was absolutely unfit for hauling, and must have been misapplied by a different use from what was intended. But the failure of the ship to preserve either end of the rope in order to show the nature of the break, notwithstanding the pendency of this suit, and the importanee of exhibiting the rope itself, and proving that fact, is true, deprives this contention of much credit.

The libelant, however, had been cautioned not to be under the fall, but to keep away from under the hatch during this raising of the sling. Although the bags where he was at work were immediately under the hatch, this fact would not, I think, relieve him from the observance of the caution which had been given him. Considering all the circumstances, I allow a decree for $850, with costs.

Dated, New York, June 10, 1895.

A SALVAGE AWARD.

The British admiralty court has made the following awards for salvage of the British ship Arno, which was abandoned at sea in April last, and subsequently picked up and towed to port with her cargo: To the Hamburg-American Line steamer Normania, which saved the Arno's crew, £1,020; to the British steamer Merrimac, which picked up and towed the ship after putting a prize crew on board, £6,440, and to the British tug Telephone, which relieved the Merrimac of her prize and towed her safely into port, £350. Of the sum awarded to the Normania the court assigns £600 to the owners and £420 to the crew; but the Hamburg-American Co. have asked that all of the Normania's award be divided among the crew except £98 to cover expenses actually incurred by the owners.

THE ST. LOUIS' FINE TRIP.

The second eastward voyage of the American Line steamship St. Louis was a distinct improvement on her maiden trip, although no attempt was made to attain high speed. The official time from Sandy Hook to the Needles was six days, twenty-two hours, five minutes. The daily runs were 402, 422, 433, 456, 454, 463, 441. The average speed of the voyage was just under nineteen knots. During the twenty-four hours ending at noon on Tuesday she logged twenty knots, which, considering her foul and unpainted bottom, was a most creditable performance. The speed of the engines averaged 83½ revolutions a minute during the voyage, which is about three higher than on the first trip.

The homeward voyage this week will probably be a somewhat better performance than the one just completed, but the new ship will make no effort to break the record until after she has been in the dry-dock next month.

The St. Louis' time is about twelve hours behind the best record, but it is about five hours better than she made on her first trip.

BRITISH COMMERCE.

From the annual statement of the navigation and shipping of the United Kingdom some interesting figures are gleaned.

During 1894 or up to Jan. 1, this year, 388,847 vessels entered United Kingdom ports having a tonnage of 94,387,371 and 354,891 vessels cleared having a tonnage of 88,497,509. This gives an aggregate tonnage of 182,000,000 tons and shows an advance of over 10,000,000 as compared with 1893. Taking the entrances and clearances together, it appears that British tonnage has advanced by not less than 9,000,000, the figures being 148,000,000 tons in 1893 and 157,000,000 in 1894. The total entrances and clearances of foreign vessels were 24,000,000 tons in 1893, and 25,000,000 tons in 1894. As regards the foreign trade alone the relative figures are very much the same.

The returns give some interesting particulars as to the relative positions occupied by the principal ports. London, of course, comes first, and as in former years Cowes is second as regards the number of vessels—20,503—but as these are almost entirely yachts and pleasure boats, they are not included in the following table, which shows the position of the various ports as regards number and tonnage, all ports having less than 2,0000,000 tons of entrances and clearances being omitted:

Ports.	Vessels Entered.		Vessels Cleared.	
	Number.	Tonnage.	Number.	Tonnage.
London.....	54,306	14,802,808	25,494	8,484,280
Liverpool.....	17,115	8,266,646	17,203	8,340,045
Cardiff	15,684	8,050,665	15,544	8,085,272
Tyne Ports....	17,631	8,744,784	17,874	8,837,365
Glasgow.....	10,152	2,985,002	10,756	3,282,348
Sunderland...	7,535	2,814,926	7,513	2,796,380
Hull	5,767	2,712,625	5,466	2,692,252
Newport.....	8,402	2,291,582	8,497	2,269,735
Dublin	8,486	2,333,777	8,247	2,304,608
Belfast	10,621	2,314,086	10,330	2,325,825
Southampton .	11,338	2,241,461	10,755	2,173,543

It may be pointed out so far as the London clearances are concerned that the number and tonnage of the vessels clearing coastwise are not included in the table.

When the amount of tonnage registered at each port is considered, the returns tell a somewhat different story. To begin with, Liverpool displaces London from the premier position, her registered tonnage being 955,564 tons of sailing vessels, and 1,145,000 of steamers. The London sailing tonnage is 317,221, and the steam tonnage 1,286,937. Glasgow is an easy third with 578,793 of sailing tonnage and 943,506 of steamers. The Tyne ports come next, though a long way behind Glasgow, and are followed by Sunderland, Hartlepool, Hull, Greenock and Belfast. When we come to the tonnage built at the different ports, that on the Clyde is far above the others. The total tonnage of the British mercantile marine is now stated at 10,512,272, as compared with 10,365,367 tons in 1893, and 10,286,198 tons in 1892.

It will be seen from the following brief statement that, while the number of sailing vessels is steadily declining, the number of steamers continue to increase:

	1894. Tons.	1893. Tons.	1892. Tons.
Sailing vessels....	4,134,935	4,216,379	4,324,722
Steamers.....	6,377,337	6,149,188	5,961,476
Total.....	10,512,272	10,365,567	10,286,198

The result is a great increase of effective carrying power. Last year the number of seamen employed was 240,458, while in 1893 the number was 240,974, and in 1892, 241,735. There was also 31,000 foreigners in the mercantile marine as against 29,549 in 1893.

COAL TRADE OF BUFFALO.

The following statistics of the coal trade of Buffalo, were compiled by Mr. William Thurstone, secretary of the Merchants' Exchange.

Receipts by railroad not reported by request. Receipts by Lake for the month of June, five canal boats of soft coal from Erie, Pa., to New York city via the Erie Canal; receipts for several preceding years none. Shipments of coal by lake for the month of June 270,381 net tons, as compared with 384,633 net tons in 1894, and 391,580 net tons in 1893; for the season 530,169 net tons, as compared with 726,407 net tons in 1894 and 933,059 net tons in 1893. The receipts of coal by canal for the month of June, 340 net tons, as compared with 1,785 net tons in 1894 and 8,885 net tons in 1893; total receipt for the season 340 net tons, as compared with 1,785 net tons in 1894 and 13,445 net tons in 1893. The shipments by canal for month of June, 1,352 net tons, as compared with none in 1894 and 2,534 net tons in 1893; total shipments for season 2,248 net tons as compared with 1,461 net tons in 1894 and 8,830 net tons in 1893. The shipments by lake westward thus far this season show a falling off of 196,238 net tons as compared with 1894, and 402,890 net tons as compared with 1893.

Lake freight during June were 40@50c. to Chicago, 35@45c. to Milwaukee, 15@20c. to Duluth and Lake Superior ports, 45c. to Green Bay, 50c. to Racine, and 25c. to Bay City and Toledo. A year since the rates were 45c. to Chicogo and Racine, 40c. to Milwaukee, Green Bay and Sheboygan, 15@25c. to Duluth and Lake Superior ports, 25c. to Toledo and Detroit, and 35c. to Bay City and Saginaw.

The distribution of coal thus far this year was as follows: 165,088 net tons to Chicago, 179,400 net tons to Milwaukee, 21,850 tons to Duluth, 48,250 tons to Superior, 12,290 tons to Toledo, 5,300 tons to Gladstone, 12,482 tons to Manitowoc, 2,825 tons to Sault Ste. Marie, 3,250 tons to Bay City, 5,788 tons to Saginaw, 4,825 tons to Racine, 8,420 tons to Green Bay, 2,000 tons to Sheboygan, 1,025 tons to Kenosha, 300 tons to St. Clair, 4,920 tons to Lake Linden, 2,750 tons to Hancock, 650 tons to Ludington, 750 tons to Cheboygan, 300 tons to Marine City, 632 tons to Owen Sound, 650 tons to Michigan City, 300 tons to Ontonago, 600 tons to Benton Harbor, 175 tons to Black River, 400 tons to Put-in-Bay, 125 tons to Oscoda, 75 tons to Alpena, 60 tons to Serpent River and about 12,000 tons in vessels from Tonawanda—destination not reported.

THE Hydrographic Office has just issued a chart of St. Joseph Channel with St. Mary's River from East Neebish to Mud Lake, compiled from the latest surveys and information obtainable. The delineation is fully up to the usual high order of charts issued from the Hydrographic Office, and we notice that a statute scale of miles is also given at the foot of the chart, in accordance with the usual lake style of measuring distances.

DEEP WATERWAY TO THE COAST.

It is not yet known who will be appointed on the national committee by the President to make a preliminary inquiry concerning a deep waterway between the lakes and the coast as authorized by the late Congress in a joint resolution introduced in the Senate on Feb. 8 by Senator Vilas, of Wisconsin.

The question has been frequently asked, where is the money to come from to build this canal? Senator Allison, who is very much interested in the matter, is authority for stating that if the survey proves the scheme feasible, enough money will be found to have been raised to insure the success of the enterprise as a private undertaking. The scheme of the projectors is understood to be to purchase at least equal interests of the Canadian rights in the Welland and Lachine canals and so deepen and widen them as to permit the easy passage of the largest lake steamers. Then when a point on the St. Lawrence is reached from which a canal can be constructed most readily to Lake Champlain, work is to start there and continue to the northern extremity of that sheet of water.

If found necessary, a canal is to be dredged and at its southern extremity a connection is to be made with Hudson river by means of another canal, wide enough and deep enough to accommodate the same class of vessels as those which pass the St. Mary's Falls canal when the work there is completed. The United States is at present time spending some $500,000 in deepening the Hudson below Troy, but this work contemplates a depth of only twelve or fourteen feet, so that when it is completed, if this great private scheme should materialize, a large sum of money would be required to make a deep water channel to the head-waters of the Hudson.

The importance of the waterway transportation is becoming more and more manifest every year and it will not be surprising if, should the present projects fail, Congress would take action at an early date looking to the preliminary work of providing an all-American water-way between the seaboard and Buffalo, either by the route or Erie and Hudson River or by a canal around Niagara Falls and thence south easterly from Oswego to the Erie again, where the Black River falls canal connects with it.

While the public at large doubtless appreciates the fact that a large volume or traffic is carried on the Great Lakes, the following extract from the report of the committee on railways and canals, on Mr. Chickering's bill is nevertheless interesting:

"The traffic of these Great Lakes is simply amazing. Through the Sault canal, at the outlet of Lake Superior, there passed in 1890, 10,557, having a net registered tonnage of 8,454,435 tons. The actual freight tonnage was 9,041,212 but the registered tonnage is used for the comparison. Through the Suez Canal there passed during the same year 3,389 vessels, having a net tonnage of 6,890,014 tons, so that nearly three times as many vessels and over 1,500,000 tons more of freight passed through the Sault canal, away in the center of the continent, than passed through the Suez canal, which is an international work and a highway for the commerce of the world. And it should be remembered, too, that the Sault canal was open but 228 days for navigation, and the Suez canal was open, of course, during the entire year. And this represents the business of Lake Superior alone.

"The entries and clearances in New York in 1889 represented 11,051,236 tons, and the entries and clearances in all the seaports in the United States represented 26,983,315 tons. The entries and clearances from London and Liverpool during that year were 33,430,617 tons. The entries and clearances on the Great Lakes in the same year were, according to the United States census, 27,700,000; and in 1890 the total freight traffic of the Great Lakes was 33,303,324 tons, exceeding by 6,000,000 the combined entries and clearances of all the seaports of the United States, Atlantic, Gulf and Pacific, and equaling the combined entries and clearances, both coastwise and foreign, of London and Liverpool, the great commercial centers of the world.

"These shipments embrace 9,000,000 tons of iron ore, 5,000,000 tons of grain and flour, 8,000,000 tons of lumber and forest products, 7,000,000 tons of coal, and 4,500,000 tons of miscellaneous freight. This was carried by a floating equipment of 2,784 vessels, having a carrying capacity of 1,254,275 tons, and a commercial value of $48,809,750.

"Of the total tonnage of shipping built in the United States during the year ending June 30, 1889, 5 per cent. was built on the western rivers, 8 per cent. on was built on the Pacific coast, 41 per cent. on the Atlantic coast and 46 per cent. was built on the Great Lakes.

"The ton mileage of the lake marine for the season 1889 was 15,518,360,000; and in 1890 it amounted to 18,849,681,384. The ton mileage of all the railways in the United States for 1889 was 68,727,223,146. It is thus seen that the ton mileage of the lake marine is more than one-fourth than all the railways in the United States. The average rate of charges for freight received by all the railways of the United States for the year ending 1890 was $0.009 per ton mile and at that rate the transportation by rail of the lake cargoes would have cost $169,647,132.

"The average rate on all freight carried upon the Great Lakes is not over $0.0012 per ton mile, making a total cost of water transportation $22,619,617,66, equal to an economy over the cost of transporting the same freight by rail of $147,027,514."

MICHIGAN'S COAL SUPPLY.

Statistician E. W. Parker of the National Geological Survey, has prepared the annual report of the different coal fields of Michigan. Of our coal product he says: The Northern field is altogether in Michigan. While it covers an area of 6,700 square miles and is spread over nearly all the central portion of the state, its importance commercially is comparatively insignificant. The coal is much inferior to that of adjoining regions in Ohio, Indiana and Illinois, and the facilities for bringing the superior coals, either by rail or water, being excellent and transportation cheap, there has been little inducement to develop the Michigan mines. What mining is done is principally to supply a local trade. The annual output has not varied much during the past decade. The largest product was in 1882, when 135,339 short tons were mined. The smallest was in 1884, when the output declined to 36,712 short tons. Since then it has ranged from about 45,000 to 80,000 tons annually. In 1894 the product was 70,022 short tons.

TACOMA'S OCEAN COMMERCE.

Harbor master Clift makes the following report of the ocean commerce at the port of Tacoma for the month of June:

IMPORTS.

One cargo consisting of 2,900 tons of tea, silk and general merchandise from China and Japan, value	$429,959.84
Total previous month	300,000.00

EXPORTS.

177,962 bushels wheat, value	$103,200.00
15,874 barrels flour to China	33,811.00
7,478,546 feet lumber	77,196.00
27,106 tons coal	81,078.00
463,662 pounds raw cotton to Japan	34,837.00
40,640 pounds condensed milk to China	3,175.00
Miscellaneous general merchandise to China and Japan	11,211.00
Total exports	$344,508.00
Total exports previous month	272,735.00
Inward registered tonnage	46,090 tons
Outward " "	44,637 "
Inward cargo	4,868 "
Outward "	47,502 "

Deep sea arrivals, 30; departures, 33.

OBITUARY NOTICE.

CAPT. AMBROSE SNOW.

One of the best friends to American shipping passed away last week in the person of Capt. Ambrose Snow of the universally known firm of Snow & Burgess, New York.

Capt. Snow was a man that came through the hawse-pipe and worked his way to distinction through his own efforts and this feature at least should entitle him to the respect of all seamen.

It is a pleasure to see that his home paper *The Marine Journal* of New York speaks so highly of Capt. Snow whom every one sailing out of New York is or ought to have been acquainted with in the past. The *Journal* in its notice says he was "Admirable in all the relations of life—as husband, father, friend, citizen, christian and patriot, his career has nobly filled all the requirements of honor and duty and may safely be commended as an example to succeeding generations. None knew better than Capt. Snow himself that his life's book was nearly written up, that exhausted nature would soon demand a rest; and the summons came just as he so often expressed a wish that it would, quickly and surely. He realized that God had blessed him beyond the average man with the enjoyment of a lifetime of good health, his faculties and the companionship of his friends to the last. What more could he ask? What more could his friends ask? A beautiful life, a peaceful death." And we would add what more could be said relative to the passing away of a sailor?

DETROIT RIVER POSTAL SERVICE.

Postmaster Enright, at Detroit, is thoroughly satisfied with his river postal service thus far. He says that telegrams, presumably from the owners, as they are addressed to the masters, are already beginning to come by way of the postoffice, and these are being given prompt delivery. Many letters bearing special delivery stamps are also being received at the postoffice since the inauguration of the scheme.

Reliability, the Detroit *Free Press* says, is the one thing that will insure the ultimate success of the service, and if the postmaster wishes the co-operation of the vessel owners he must perfect this quality by giving special attention to the delivery of telegrams, for upon them the owner depends entirely for the transaction of business between himself and the masters of his vessels. Here is a suggestion made by a Detroit owner that if followed out will make the postmaster a vessel agent. Suppose a telegram from the manager of a vessel to her master comes by way of the Detroit postoffice. It has a special delivery stamp on and is hustled to the river station. But the vessel has passed down. Now, to guarantee the delivery of that telegram the postmaster must have the authority to open the telegram and telegraph or telephone its contents to an agent stationed at Amherstburg, who will intercept the steamer as she passes there and deliver. If she has already passed through into Lake Erie the telegram is of course useless, but this is not likely to occur, because her movements are closely watched by the manager and he rarely gives her too much headway. The same rule will apply for the delivery of telegrams to up-bound boats, the telegrams to be sent to Port Huron, the "Soo" or Mackinaw City as the case may be.

TORPEDO BOAT DESTROYERS.

The well-known firm of Thornycroft's have undertaken to construct three torpedo boat destroyers which are to attain to a speed of 30 knots per hour. They have completed five vessels of the same type which have given most satisfactory results. It is worth noticing that all the torpedo boat destroyers thus far delivered have had either Thornycroft or Normand boilers, and the similarity of the two types is most striking, particularly in the adoption of curvilinear tubes instead of straight tubes and "elements" of tubes, the characteristic features of most other types of water tube boilers. None of the builders deny that difficulties have had to be contented with, but these have been overcome, and when they have satisfactorily passed through the trials they have obtained data which makes the increase of speed a matter of comparative ease, although, perhaps also of cost. The power for 30 knots is put at 6,500 I. H. P., and to attain this on a displacement of 220 to 250 tons is a triumph absolutely impossible with the multitubular boiler of ordinary marine type with its great weight of shell and water.

Mr. J. I. Thornycroft, in his remarks at a recent meeting of the United Service Institution, said that the conditions for high speed in reference to the size of ships were held to be such that a speed of 30 knots could only be obtained with an approach to economy, either in a vessel of the size of the destroyers, or one of the largest dimensions, such as the Blake. The strain of the engineers and others in the torpedo boat destroyer measured by the horse-power which each helped to produce or govern, was represented as six times greater than in the ordinary merchant steamers; so severe were the demands on eye, ear and hand, that the substitution of automatic for hand-governed machinery was insisted upon.

FINE GRADE OF ORE.

It is learned this week from Marquette, Mich., that one of the diamond drills being operated by the Lake Superior Iron Co., in the Lake Angeline basin, struck more ore about 100 feet north of the Cleveland-Cliffs Co.'s pump. A sample of the ore assayed 69 per cent. in iron and .012 in phosphorus. This is about the best grade of ore found in the lake bed. The local officials of the Lake Superior Co. feel greatly encouraged over the result of the exploratory work in the lake bottom. They knew that ore would be found there, but had little expectation that the deposit would prove so extensive. Ore has been found in most of the shafts thus far put down. The holes have been bored from 75 to 100 feet apart, running north and south, so that the extent of the vein may be fully determined.

THE MARINE RECORD

ESTABLISHED 1878.

PUBLISHED EVERY THURSDAY, AT 144 SUPERIOR ST., (LEADER BUILDING), CLEVELAND, O.

IRVING B. SMITH, }
CAPT. JOHN SWAINSON, } . . . PROPRIETORS

BRANCH OFFICE:
CHICAGO, ILL., ... 238 Lake Street.
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SUBSCRIPTION.

One copy, one year, postage paid, . . . $2 00
One copy, one year, to foreign countries, . . $3 00
Invariably in advance.

ADVERTISING.

Rates given on application.

Entered at Cleveland Post Office as Second-class Mail Matter.

CLEVELAND, O., JULY 11, 1895.

SHIPOWNING is one, if not the most prominent industry in the United States. Men of capital might aspire in a greater degree than they do now to control floating property.

THE MERCANTILE MARINE.

It is somewhat beyond the bounds of journalism or of prudence to prognosticate what may event during the next score of years, but this we may say, that, unless the mercantile marine of the United States again comes to the front as in days of yore, we are certainly destined to be in the background of universal civilization, not to say progression.

There seems to be no use for American ships, or people to man them in this age, yet, other nations are making what we might term a grand living out of maritime pursuits, and it is due to Americans that they also should find the why and wherefore of success afloat.

In this connection we would suggest that the apprenticeship system be applied to our mercantile marine and that every boy whom an owner might enroll should be entitled to some national recognition as being one of those whose early life and mature discretion was devoted to the upbuilding of the nation and her resources.

Now, let the principal of the steamboat inspection service, as well as the commissioner of navigation, work to the end that every boy starting out in the mercantile marine service of the country, either as a deck officer or an engineer, and if anything preferably the latter, be entitled to distinctive honors, while serving his time afloat.

TO USURP THE WESTERN TRADE.

Canada will eventually usurp the trans-pacific trade unless the United States asserts her rights according to the Monroe doctrine or some other foothold which may hold the balance of power or transportation between the colonies of the British Empire and this country.

It appears that the Canadian government are now engaged in working up a scheme to capture all of the trade that they can between what we may term the stepping off place on the Pacific coast and the East.

The scheme recently proposed by the Canadians is to subsidize a line between Australia and the other provinces about as follows:

"For a total annual subsidy of £300,000 four 20-knot ships could be provided to give a weekly service between Great Britain and Canada, and five with a speed of 16 knots to give a fortnightly service across the Pacific from Canada to Australia. This proposal, it is stated, would require a capital of £3,000,000, with a smaller capital of £2,500,000 three Pacific steamers instead of five could be provided, giving a four-weekly service, but it would be better to deal with the larger and more complete scheme. For this project it is suggested that the subsidy of £300,000 should be borne—£175,000 by Canada, £75,000 by Great Britain, and £50,000 by Australasia.

The Canadian Government are already paying £25,000 a year towards the Pacific service, and have now agreed to pay, for a term of ten years, £150,000 towards the Atlantic service, thus making up the appointed subsidy of £175,000.

At present the only subsidies received by the British from Australasia in aid of the Pacific service are the sums of £10,000 and £1,500, paid by New South Wales and Fiji, respectively. To make up the balance of £38,500 of the £50,000 required from Australasia would apparently not be an easy matter. South Australia and Western Australia are not materially interested in the Pacific route, and are satisfied with the existing service. No contribution therefore, it appears, can be expected from them towards the English Exchequer. Any substantial assistance from Victoria, Queensland and New Zealand would be more or less conditional on the Pacific vessels calling at ports in those colonies; but to call at all three is considered to be out of the question."

With the foregoing in view it behooves the United States to be closely on guard and meet the foreign competition already evidenced in the Canadian policy regarding the western borders of this continent and offset their Australian and South Sea commerce, if it is possible to do so by any legitimate means and in due course with the comity of nations.

LAKE LEVELS.

In all the discussion that has appeared of late regarding the effect of the Chicago drainage canal on lake levels, nothing has been heard from the government engineers in charge of the big project, although it is well known that some of the best talent to be found among civil engineers in this country is engaged on the work. It is understood now, however, that the canal trustees are about to submit a lengthy statement covering the subject to the Secretary of War, and extracts from a report prepared by Thomas T. Johnson, who is assistant chief engineer in charge of the hydraulic work of the canal, have been given out,

Mr. Johnson finds that when Lake Michigan's level is at its highest normal point and the drainage canal is taking from the lake its maximum capacity of 600,000 cubic feet of water a minute, or 10,000 a second, the reduction of the level will be between five and six inches. At its average level, year in and year out, the reduction of the level will not exceed three and a half inches. When the lake level is at a low point and the channel is taking but 300,000 cubic feet a minute—the minimum capacity—the reduction will be but a fraction over one inch. The report says further with reference to a curve drawn on a diagram submitted in connection with it:

"This curve indicates what is highly probable and in conformity with the increasing slope—viz., that at low stages of Lake Erie the change of level for a change of outflow amounting to 10,000 cubic feet per second is about three inches, or about one and a half inches for the amount which will for some years at least be taken by the Chicago drainage canal if completed. At midstage of the lake it appears that the change of level will be somewhat more, but the change is not of so much consequence at the higher as at the lower stages. The change of level in lake Erie is fixed by Niagara River. The rise and fall of Lakes Huron and Erie are about the same, and therefore a change of flow through connecting rivers will produce the same change of level in both lakes, except in so far as the flow through Niagara River is larger than the flow through the Detroit River—that is, the change of level in Huron and Michigan for a given change, flow will be 15 per cent. more or less greater than the change in Erie."

Referring to Major Ruffner's conclusions regarding the Niagara outflow the report says: "Major Ruffner and his commission, when they examined Niagara River and made their measurements, used a side channel guage When this gauge measured a flow of a little less than zero they found that the flow was 164,000 cubic feet a second. When the gauge marked one foot, the discharge increased to 204,000 cubic feet in a second, and a further measurement of two feet indicated a discharge of 228,000 cubic feet in a second. It will be noted that the change in flow from the measurement at zero to that at one foot was 40,000 cubic feet. This corresponds to a one-foot change of level in Niagara River, and a change in the level of the lake which would correspond to that would be 20 per cent more, or 14½ inches. But the flow of the drainage channel from the lake is to be now but 300,000 cubic feet in a minute of 5,000 in a second. Therefore, 40,000 cubic feet increase in flow, producing a lake-level change of 14½ inches, would make a 5,000-cubic-foot flow a second produce a change of but, say 9 inches in the general decrease for three years on the level of the lakes."

THE FREIGHT SITUATION.

Shipments of iron ore from the Lake Superior region up to July 1 were over 3,000,000 tons, with two-thirds of the season remaining. Those who predicted that the total shipments would fall short of 8,000,000 tons for the season are drawing in their horns. The output of 1895 is certain to exceed that of all previous years, and yet the exceptionally large production is so nearly equaled by the consumption that the demand next winter and spring will be as great, if not heavier, than last winter, and the prices will be just as certain to improve.

The mines are running very economically this season. The low prices realized for the product necessitated permanent retrenchment in several directions, and mines will be run in the future on much lower expense than previous to the depression just passed through, even after former rates of wages shall have been restored.

Advices from Duluth say that wheat shipments are increasing, but most of it is going out on charters made last winter. Line boats take occasional charters at prices kept pretty quiet, but the rates are all a guess at from 2 to 2¼ cents. This season's lumber is beginning to find buyers, and the prospects are that it will soon be moving quite rapidly. It is expected that quite a rush will be a feature of the latter portion of the season.

Freight rates are as reported last week, and although there is a firmer feeling, it is questionable if vessel owners can advance any of the rates during the next few days.

A NAVAL RESERVE.

A report on the naval militia which was made public a day or two ago at the Navy Department, suggests that a series of drills in the monitors be arranged for with the governors of the states concerned in the engagements to be made, if possible, early in the spring, and that exercises to be carried out systematically during the next summer, at which time it is believed two or more monitors on the Atlantic Coast, and the Monterey on the Pacific, may be available for this important duty. Naval officers who inspected the reserves of the various states last summer unite, it appears, in the conviction of the militia's usefulness as a force for coast defense. The report suggests that steps be taken to call together the principal officers of the naval militia for consultation as to the probable duties of the militia on the outbreak of war. Invitations are to be sent to the authorities of the various states asking them to participate in this initial movement towards suggesting positive legislation regarding the duties of the militia and its relation to the national government and its naval forces. In compliance with regulations, governors of states have made returns of the present strength of the reserves as follows:

	Total officers and men.
Massachusetts	448
Rhode Island	112
Connecticut	65
New York	432
Pennsylvania	217
Maryland	128
North Carolina	168
South Carolina	208
California	320
Illinois	367
Michigan	73
Total	2,530

The naval reserves constitute but one feature, though that is a most important one, in which the militia system of the present surpasses that of the past.

The following named vessels have been or are about to be loaned to state organizations: The New Hampshire to New York, the St. Louis to Pennsylvania, the Dale to Maryland, the Nantucket to North Carolina, and the Swatara to California. Steps are being taken to offer an expedition to the Michigan Militia at Detroit, the two separate divisions at Rochester, the divisions at New Haven, Conn., and to the various divisions of South Carolina at Charleston and Port Royal. This will enable these divisions to get boat practice and become familiar through boat expeditions, with the coasts and harbors of their states. The opinion of Rear Admiral Meade, U. S. N., is that the Naval Militia is an important school for the training of a reserve force of officers for the navy, and in this respect the Admiral compares its probable usefulness in time of war to the service rendered by the 7th Regiment of the New York National Guard in supplying officers to the army

during the civil war. Since the last annual report of Lieut. W. H. Schuetze, U S. N., on the Naval Militia; Michigan and Connecticut have organized Naval Militia divisions in Detroit and New Haven, respectively. The legislatures of Vermont, New Jersey, Virginia and Georgia have passed laws authorizing the formation of naval militia battalions. Efforts are being made in Ohio and Washington to pass such laws at the next sessions of the legislatures. A bill has been introduced in Congress, having in view the organization of a naval militia battalion in the District of Columbia.

Members of the New York Board of Trade and of the Maritime Association are endeavoring to create a renewed interest in the bill to establish a branch of the navy to be known as the "Navigating Naval Reserve." A bill was introduced by Amos J. Cummings last year, but the matter has since drifted along without special attention being paid to it.

Mr A. Vanderbilt, who takes a great interest in this movement, said in an interview last week:

"The Naval Reserve of the United States is to the United States Navy what the National Guard is to the United States Army.

"Two Divisions of this service have been established by law, viz., the Naval Milita of the States and the Auxiliary Cruisers, in various high-powered steamships of the merchant marine. The third division is yet to be created to complete this most inexpensive and valuable war force, which would be ready at a moments notice to augment our regular naval service on the ocean and navigable waters of the country. This third division would be composed of such ex-officers and sailors of the United States navy and officers and sailors of the merchant marine as would volunteer for commission and enrolment and be found qualified upon examination under provisions prescribed by law and regulations established by the Secretary of the Navy.

"There exist at the present time a large amount of American nautical intelligence and skill afloat available but unorganized, and consequently of but little power for immediate war purposes. If selected, organized and instructed under such regulations as would not interfere with commerce in times of peace, it could be made a powerful force to strike a blow in event of threatened hostilities. In naval reserve we are behind the times of the maritime world, but will not long remain so, as much progress is being made in the force adapted to our institutions and in organization unlike any similar force of the world. All the great maritime powers have for years had their naval reserves.

"The Paris and New York of the American Line, while under the flag of Great Britain, were commanded, officered and partly manned by a personnel of the Naval Reserve of England, while the same ships under the American flag have not this governmental stamp of rank—an aditional guarantee of high standard in ability and character of officers and men—a command certainly well informed in times of battle to understand the best qualities of their ship for maneuver from long familiarty with her best qualities in times of peace.

TANDEM PROPELLERS.

Naval experts calculate that to attain a greater speed in ocean steamers, the propelling power must increase in the ratio of the cube of the velocity, a doubling of the speed requiring eight times the power, and there is some reason to think that while this cube ratio holds good for present maximum speeds, it would fall short before the doubling had been attained; that experiment would prove that eight-fold power would not give twice the twenty-two knots per hour attained by the Campania and the Lucania.

This, too, would require the devotion of so much room to the purposes of boilers and machinery that it seems impossible that forty or fifty miles an hour on the ocean will ever be reached by this means. J. B. Jones, of Philadelphia, has evolved some new ideas in propellers which may be of service in attaining increased speed. His principal idea consists of two propellers revolving in different directions and at different rates of speed, and by this means the inventor claims that the "slip" which has always been experienced is entirely overcome.

This feature of his patent is an important one, but not more so than the gearing he has designed, by which the propeller blades revolve three times every time the shaft is revolved once, and this idea is carried out in the mounting of the two propellers, by which the difference of their relative speed is secured. In the trials made a few months ago on the Delaware River, the rear propeller was geared to turn two and a half times, while the other made three turns to the shaft's one. This trial was conducted under great difficulty; yet an increased speed was secured, but the engine on the boat was not of sufficient power to get satisfactory results from it. When the boat was taken out of the water it was found that increased speed had been attained, despite the fact that a great piece of rope had become twisted in the mechanism of the propeller, and was acting on them like a brake. The experimental boat was laid up for further improvements and the trial will be resumed this summer. Mr. Jones claims that with a 20 horse-power engine on the boat, he would have been able to make 25 miles an hour, instead of seven miles, which is all that could be gotton from her before applying the geared propeller.

GRAND HAVEN VESSEL TRANSFERS.

Schooner May Cornell, sold by John Stram to J. A. Olson, of Manistee, consideration $50. Tug Wm. Richards, half interest sold by Wm. E. Pearsons to D. M. Wilson, of Montague, consideration $500. Tug Cayuga, half interest, sold to same party, for $1,500. Schooner Louise Monroe, sold by D. A. Trumpour, of Bay City, to Gabriel Stremhom, of Mackinac, consideration $400.

UNITED STATES SHIPBUILDING.

Sail and steam vessels built in the United States and officially numbered as shown by the records of the Bureau of Navigation, Treasury Department, during the year ended June 30, 1895:

	STEEL.				IRON.				WOOD.			
	Steam.		Sail.		Steam.		Sail.		Steam.		Sail.	
	No.	Gross.	No	Gross.	No	Gross.	No.	Gross.	No.	Gross.	No.	Gross.
Atlantic and Gulf	18	20.770.07	1	69.02	7	3,300 73	...	.....	109	9,613 57	307	45.765.77
Pacific	1	2 556.37	....	.....	....	.....	....	.....	21	3.026 72	61	2,079.58
Great Lakes	8	17,654.64	4	6.062 60	1	365 15	....	.....	54	10.918 60	26	3 013 60
Western Rivers	4	582.76	....	.....	....	.....	....	.....	60	6.939 07	...	....
Total.	31	41.563.84	5	6,131 62	8	3,665.88	....	.....	244	30.297.96	394	50.859 25

	No.	Gross Tons.
Total steam	283	75,727.68
Total sail	399	56,990 87
Grand total	682	132 718 55

ANOTHER CONTRACT PLACED.

A contract has been awarded to the Cleveland Ship Building Company by a Cleveland firm of vessel owners for the construction of a large steel steamer to be ready for business on the opening of navigation in 1896.

According to the present specifications the new boat will be 395 feet keel, 415 over all, 45 feet beam and 28 feet deep. She will have twelve hatches with twenty-four-foot centers. Engines of the builders' triple expansion type, high pressure cylinder 23 inches in diameter, intermediate cylinder 38 inches in diameter, low pressure cylinder 63 inches in diameter, with a stroke of 40 inches. Steam will be supplied at a pressure of 170 pounds to the square inch by two Scotch type boilers each 14 feet in diameter and 13 feet long. The system of her scantling construction will be what is known as the channel system, the same as the steamer Yale building at the same yard and the big steamer Victory which was launched at Chicago last week.

Her deck houses will consist of a steel forecastle extending from the spardeck to the promenade deck, and will contain the captain's stateroom, bedroom and bathroom, and mate's and wheelsmen quarters. On the promenade deck will be located the texas and pilot house. About amidships will be located a deck house, containquarters for the firemen, deckhands and watchmen and a lamp room. Aft of the boiler house will be located a cabin containing the dining room, galley, pantry, stewards', engineers' and oilers' rooms. The cabins will be finished in quarter sawed oak paneling and ceiling throughout.

The specifications call for a steam windlass, capstans and everything modern for the rapid handling of cargo. It is estimated that the new ship will carry about 4,500 gross tons of iron ore on a mean draught of 15 feet, or 6,500 tons, on 20 feet. The material for the new boat has already been ordered. The Otis Iron & Steel Co. of Cleveland are to furnish the plates, and the Carnegie Company of Pittsburgh, the frames.

SHIPBUILDING RETURNS.

The Bureau of Navigation has received preliminary returns showing that 682 steam and sail vessels of 132,719 gross tons were built and documented in the United States during the last fiscal year, compared with 776 steam and sail vessels of 121,547 tons during 1894, an increase of 11,000 tons. Final and revised returns will somewhat increase the figures by the addition of barges, etc. Steam vessels numbered 283, of 75,728 gross tons, sail vessels 399 of 56,990 tons, a decrease of 8,000 tons steam and increase of 19,000 tons sail compared with 1894.

Construction on the Atlantic and Gulf coasts comprised 442 vessels, of 79,520 tons, compared with 562 vessels of 68,478 tons for 1894. Construction on the Great Lakes comprised 93 vessels of 38,016 tons compared with 89 vessels of 40,372 tons. Among notable additions of the year to the merchant fleet are the steamers "St. Louis," "North Land" and "Newport News."

Steel construction comprised 36 vessels, of 47,696 tons compared with 35 vessels of 50,736 tons in 1894.

The number of American vessels thus far officially reported as lost during the year comprised 85 steam vessels and 276 sailing vessels, barges, etc.

Among the notable American marine disasters of the year are the recent foundering of the S. S. Colima, the loss of the S. S. Keweenaw, reported missing with 31 lives on the Pacific, the stranding of the steamships Cienfuegos and Ozama, and the loss of the S. S. Chicora on Lake Michigan.

OFFICIAL INQUIRY.

Charles A. Richardson and Stewart H. Moore, government steamboat inspectors at Chicago, have forwarded to Supervising Inspector Dumont at Washington their report regarding the accident on June 22 to the whaleback steamer Christopher Columbus. The report states that their was no carelessness nor lack of discipline on the boat and that no excess of steam was carried. In addition to stating that a hydrostatic test of 225 pounds was applied June 8 and that everything was found in good order, the report says that "one of the cast-iron flange T connections on main steam pipe burst close to the flange, causing the strain to break one of the main stop-valves of the after boiler in the star-board battery in the same place—viz: neck of flange connection. The cast-iron T connection was eight inches in diameter and the material was three-fourths of an inch in thickness. The stop-valve was five inches in diameter and of the same thickness."

The report says further: "Neither was there an excess of steam pressure; in fact, it had never reached the amount allowed by the certificate of inspection—viz: 170 pounds. One passenger testified that he heard one of the officers reply to a passenger when asked if they would allow the Virginia to pass them, that they were not going at their usual speed, nor would they, as they were not carrying the usual amount of steam."

SIX employes of the United States Coast and Geodetic Survey, with pay ranging from $1,800 to $4,000 per year have been removed by Secretary Carlisle of the Treasury Department.

THE Treasury Department has entered into contracts with hospitals and surgeons at the principal cities of the country for the care of sick seamen, the rates varying from 50 cents to $1 per day for subsistence, and from $8 to $18 for burials.

STEAM TOWING MACHINES.

The automatic steam towing machines manufactured by the American Ship Windlass Co., Providence, R. I., are being so well appreciated by all who see and use them that there will in a short time be several more in use on the Lakes and four on the Atlantic coast, practically illustrating the satisfaction and safety that they afford. Besides this it is now proposed to try them more extensively for the towing of barges and if successful in this line, as no doubt they will be, it may mean a revolution in the business of towing consorts.

The towing machine that the Philadelphia & Reading Railroad Company put on the steamer Lebanon some time ago has so satisfied and pleased them that Mr. Taylor, the shipping and freight agent of the Reading colliers, has recommended the management to place it on another of their towboats, the International. The management of this transportation concern has also issued proposals to certain shipbuilders for a new tug, 170 feet long, in the specifications for which this towing machine is called for among the equipments. Mr. R. C. Viet, Superintendent of floating property of the Standard Oil Company, has likewise ordered one of these machines for barge No. 58; and the Globe Iron Works, of Cleveland, who are building a 300 foot steel towing schooner for the American Transportation Company of Fairport O., will also equip her with one of these towing machines.

It is the opinion of those who are familiar with the operations of this machine—the Shaw & Speigel Automatic Steam Towing Machine—and who have tested it, that it will pay for itself in from one to two years. The principle of the machine is well known to our readers, the steam at a specified presure, set according to the weight of the tow and probable strain, affording a cushion for the towing bitts so that when the strain temporarily exceeds a certain amount the lime is paid out, and when the tow sheers toward the tug the line is as rapidly wound in, thus preserving a permanent and certain strain upon the towing vessel and therefore absolutely easing her machinery from jerks while rendering the tow line equally free from sudden snapping and jumping. Insurance men who have witnessed its efficient operation are free to admit it will probably be advantageous for all consorts, tugs and steamers to be equipped with this machine.

LABOR CONVENTION.

President Daniel E. Keefe, of Chicago, presided at the opening of the Fourth annual convention of the National Longshoremen's Association of the United States, held in Milwaukee on Tuesday. After the appointment of the various committees of the section the address of welcome was read by Frank J. Weber, of the state Federation of Labor. Mr. Weber was particularly severe on the stevdores and the Vessel Owners' Association, as well as the "grog shop owners." A telegram from the San Diego (Cal.) Association of Longshoremen wishing the national body success was read. President Keefe, in his annual address, cautioned organized labor against hasty legislation or steps that would force local associations into unnecessary trouble. He strongly advised the adoption by the association of all bodies of vessel workers whose aims were the same. Sixty-five delegates were present at the opening of the session and about 40 more were expected, making 110 delegates in all.

"RAMIE" NOT A NEW SUBSTANCE.

The newspapers of the past week have made the announcement that some of the sails of the yacht Defender are to be made of a new substance, ramie. But, nevertheless, ramie is not the "new substance" which is here represented; on the contrary, it is one of the very oldest known fibres in the world, traces of it having been found in the wrapping cloths of the Egyptian mummies.

It has been known to the Chinese for more than a thousand years, and for this length of time they have been spinning and weaving it with rude appliances which are to-day no improvement over those of the earliest times. Ramie is the fibre of one or two species of the nettle family; it is two or three times as strong as flax, and has a lustre which resembles that of silk. Perhaps one reason why it has not been successfully worked by our modern methods may be that the efforts of our experimenters have been largely to get from it a fibre with which to adulterate silk.

Ramie has, however, excellent qualities of its own. It is strong, not affected by moisture, does not shrink or swell if wet, and does not mildew or rot. These qualities have made it evident that with a little advance in the ability to handle it, it would be available for the sails of vessels, in which all these things, shrinkage, mildew and decay are all very essential matters.

The chief objection to the use of ramie is the difficulty in separating the fibres from each other. They are united in the leaf in which they grow by a tenacious gum, and any chemical which is applied to dissolve this gum weakens the fibre. New processes, however, have been found which accomplish this object more successfully, and we may look forward to ramie, both in the growing of it and its manufacture, as the most valuable industry of the future. The Chinese have been able to produce from it some exceedingly fine fabrics, but even with the cheapness of their labor these have been high in price.

TRAFFIC THROUGH ST. MARY'S FALLS CANAL.

The month of June shows phenomenal traffic passing through the canal during that month, outside of freight tonnage. Over the corresponding month last year there was an increase of 530 vessels passing the canal, and a large increase in registered and freight tonnage.

Comparative statement with June, 1894:

	Passages.	Registered tonnage.
1895	2,875	2,637,636
1894	2,345	2,119,731
Increase	530	517,905

	Passages.	Freight tonnage.
1895	4,614	2,209,046
1894	3,727	1,842,309
Increase	887	366,677

Number and class of vessels:

Steamers	1,922
Sail	848
Rafts and unregistered craft	105
Total passages	2,875
Total number of lockages	1,050
Total registered tonnage	2,637,636
Total freight tonnage	2,209,046
Total number of passages	2,875

Time lock was operated, 686 hours and 18 minutes. Aggregate time consumed by vessels in passing, 1,614 hours.

AN APPEAL BY ERIE CANAL MEN.

The canal men held a meeting in the Spaulding Exchange, Buffalo, last Friday afternoon. The meeting was called for the purpose of urging the enforcement of the state law, which fixes elevator charges at ⅝ of a cent in and out. It is claimed that ⅞ of a cent is now being charged under the guise of "storage." The charges now made against canal cargoes by the elevators are "elevating and storage, ⅞ of a cent." It is claimed that the storage proviso in the charges is but a trick to raise the transfer rate, as storage is charged on grain that is in the elevators but a few hours or even a few minutes, when the cargoes go through a practically evict transfer.

The resolutions which were adopted are as follows:

Resolved, That we, canal forwarders and Erie canal boatmen, partners of the state in the transportation business, implore Gov. Morton and the Attorney-General to compel the Buffalo railroad grain elevator combine to comply with the state's grain elevator law, as the sums illegally collected by the said elevator combine for elevating canal grain amounts to $64 on a pair of canal boats loaded with wheat, $70 on corn, and $120 on oats.

Resolved, That it is this robbery on canal commerce that has forced nearly all the boatmen to tie up all their boats, while the railroads carry out of Buffalo daily from 400,000 to 800,000 bushels of grain; and be it further

Resolved, That we earnestly appeal to the press and to all the friends of the Erie canal to aid the movement to compel said elevator combine to elevate canal grain at the rate fixed by the statute.

Resolved, That the secretary be instructed to forward a copy of these resolutions to Gov. Morton, also to the Attorney-General.

The railroads having come to an agreement regarding the advance of grain rates, freights on the Erie canal are expected to take a jump soon. The canal men have been idle so long that they are talking of holding out for a good stiff rate to make up for the time they have lost.

ST. CLAIR CANAL RULES.

The cards bearing the rules and regulations for the government of the St. Clair Flats ship canal are out. These rules were made by act of Congress of August 17, last year, and went into effect this month. Many of the old rules are still in force, but there are also some important changes. For instance, the government has concluded that the banks of the canal are wearing better than expected, and have changed the speed at which boats are allowed to pass through from five to eight miles an hour.

What follows in the rules is all new: To prevent blockades in the canal or its approaches the custodian is authorized to detain any vessel at either end until, in his opinion, a safe passage can be secured, and no one is allowed to interfere with him while in the discharge of his duty. No person in charge of a vessel shall allow it to enter or attempt to pass through the canal at a time when the available depth of water in the canal is not as great as the draft of the vessel, and the custodian is directed to announce from time to time in the daily papers the available depth of water in the canal. There would seem to be little call for this last provision. There has been no trouble of that nature in three years, or since the canal was dredged out. It is a 21-foot canal now, and it is not likely that any boats are going to load beyond 19 feet when the whole deep channel is completed.

All boats are prohibited from attempting to pass through the canal in the face of running ice without the express permission of the custodian. They cannot hug the banks in passing, or deviate more from the middle of the canal than is necessary for safe navigation. This provision is of course intended to protect the sides of the canal, or the dikes, as they are called, from contact with the sides of boats. All boats are prohibited from obstructing the canal in any way, or from intentionally delaying, by slow passage through the canal or by any other means, the progress of other boats navigating the canal.

The penalty for violation of these rules is the old one of a fine of not more than $500 or of imprisonment of not more than six months.

NOTES.

THE state of Washington has a greater number of safe harbors and a longer shore line in proportion to its area than Europe. The area of the inside tidewater is 1,258 square miles, and the total tidewater of the state is 1,576 square miles.

"I THOUGHT you were going to have a ship canal to the Mississippi River,'" said a visitor. "We are," replied a Chicagoan. "Pooh!" exclaimed the other. "What can you ship down it when there are fixed bridges?" "Water," replied the Chicagoan promptly. —*Chicago Post.*

EXPORTS of general merchandise from the port of New York for the week ending June 19, were valued at $3,474,048, against $7,200,542 in the preceding week and $6,449,714 for the corresponding week of last year. Total since January 1, $146,427,919 against $159,750,433 corresponding period last year.

TRADE NOTES.

The firm of A. Schrader & Son, New York, has been changed to A. Schrader's Son. The business will be conducted, as heretofore, by George H. F. Schrader, and his large marine acquaintance is certain to result in prosperous times for the firm.

The Steam Separator; its object, action and application, is the name of a little 36-page pamphlet issued by Charles D. Mosher. It is primarily intended as an advertisement of the Mosher separator, but contains much that is equally applicable to other forms of the apparatus, and that is very useful. Sent free on application to the author, at No. 1 Broadway, New York.

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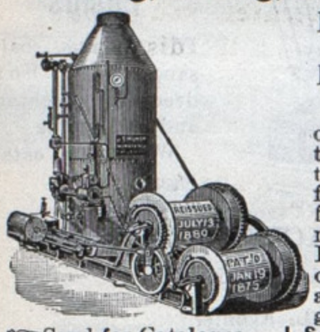

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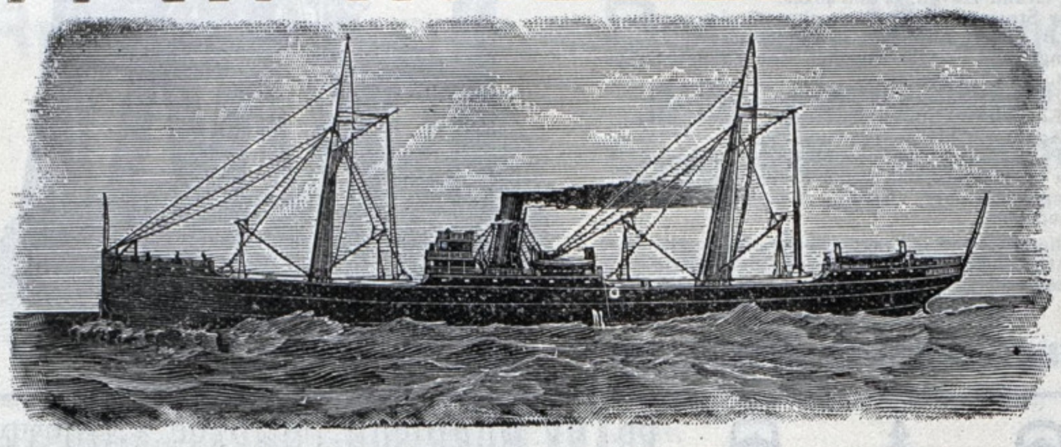

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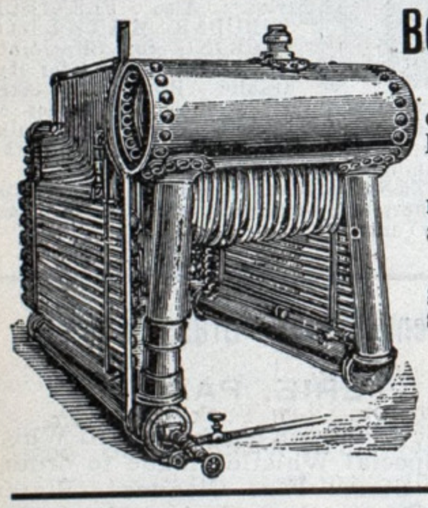

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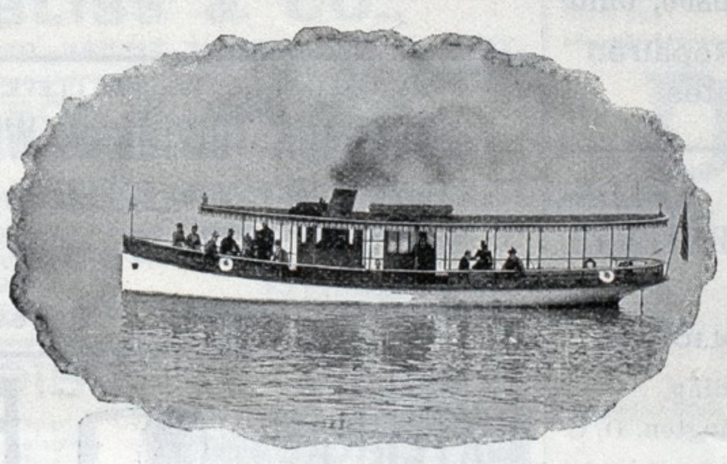

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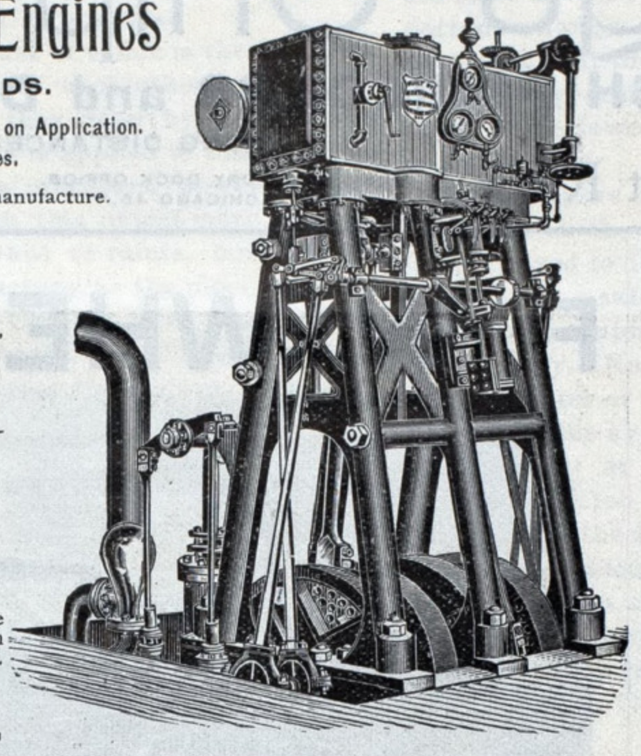

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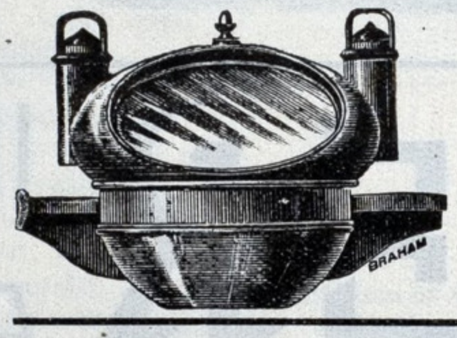

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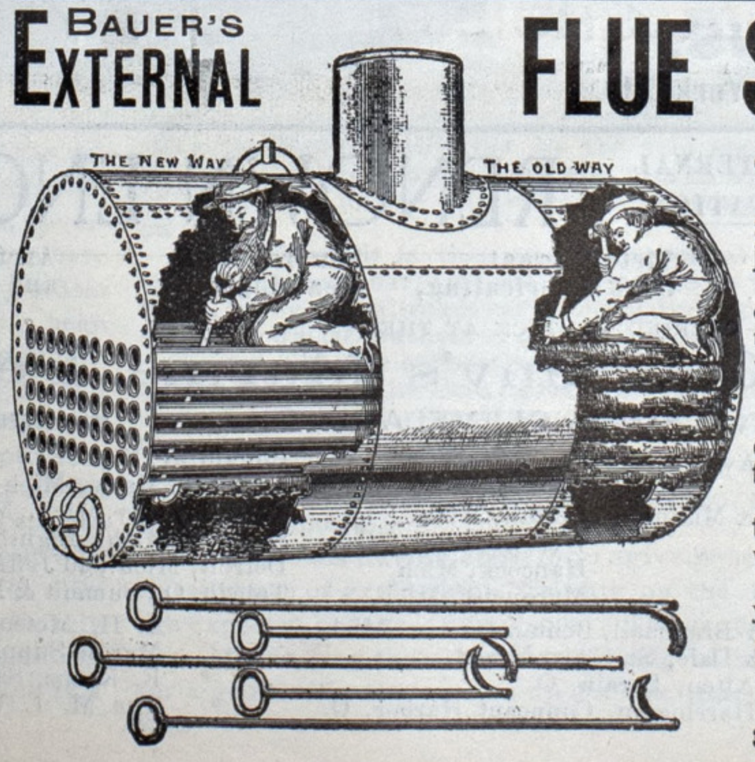

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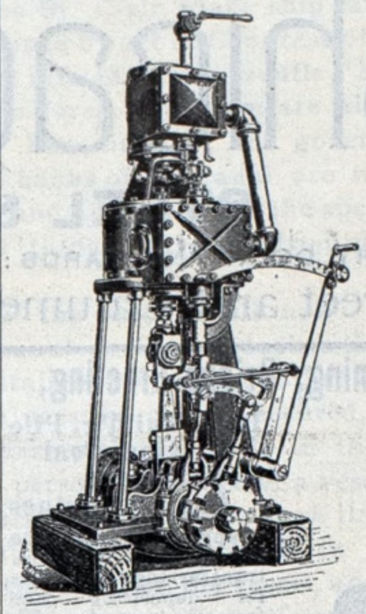

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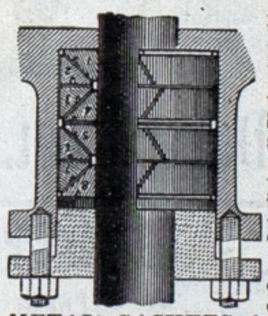

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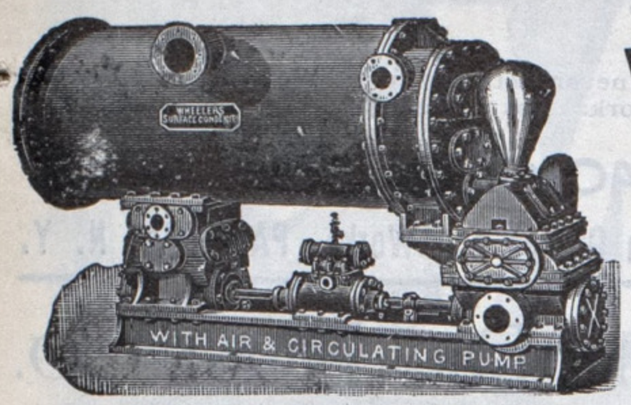

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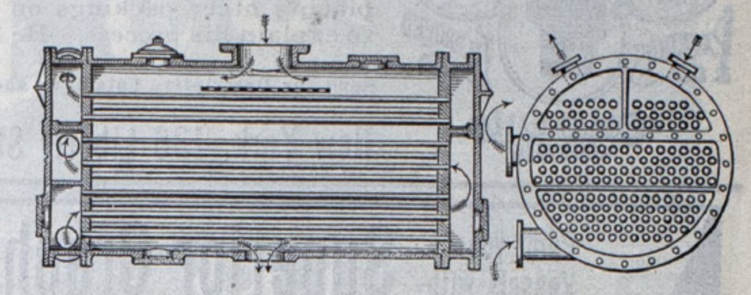

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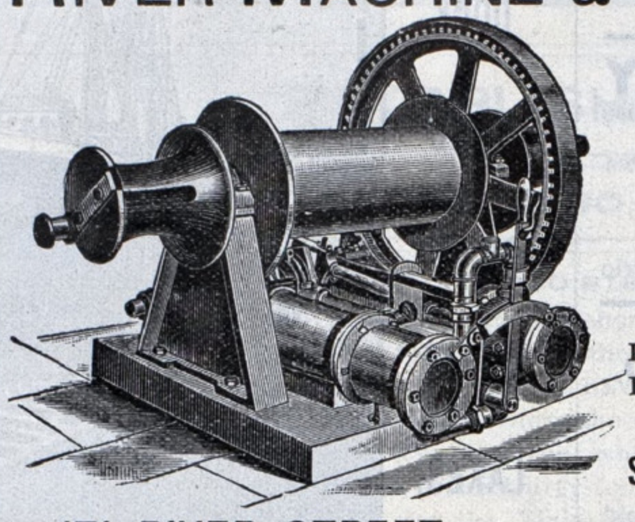

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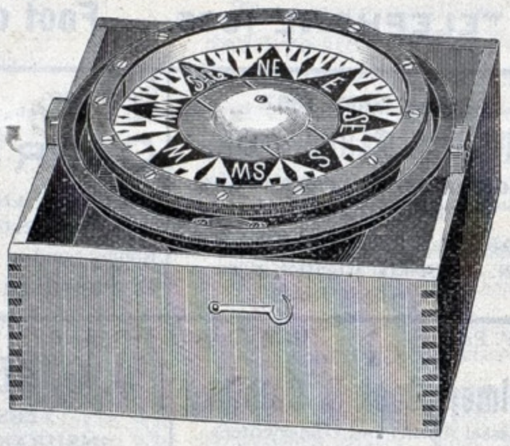

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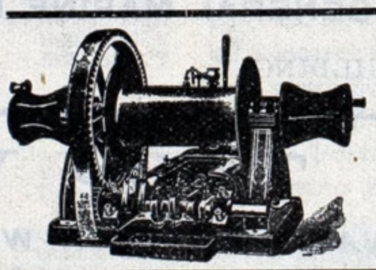

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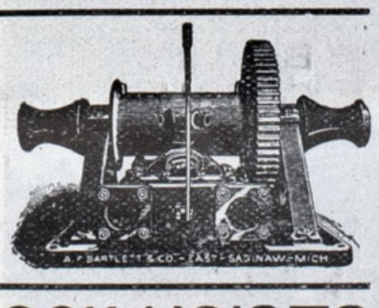

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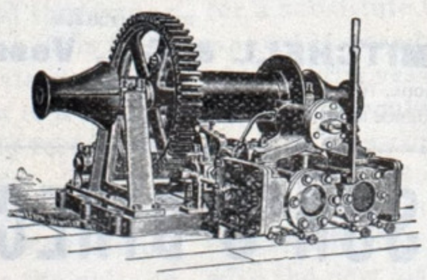

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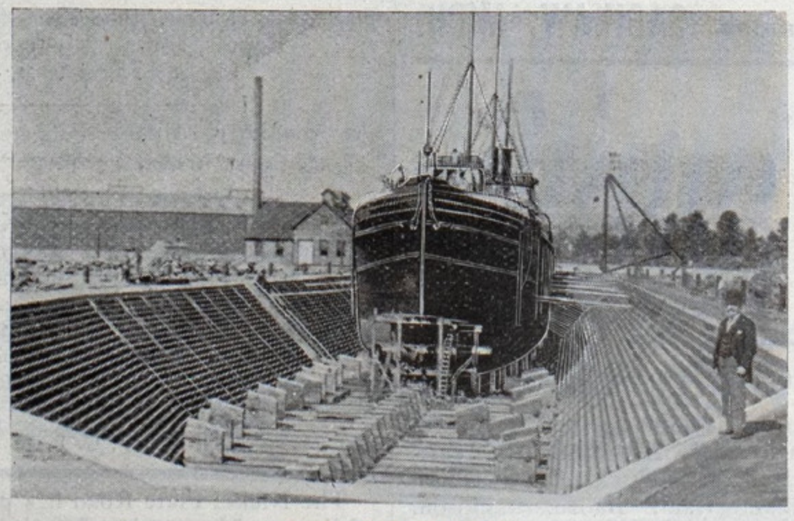

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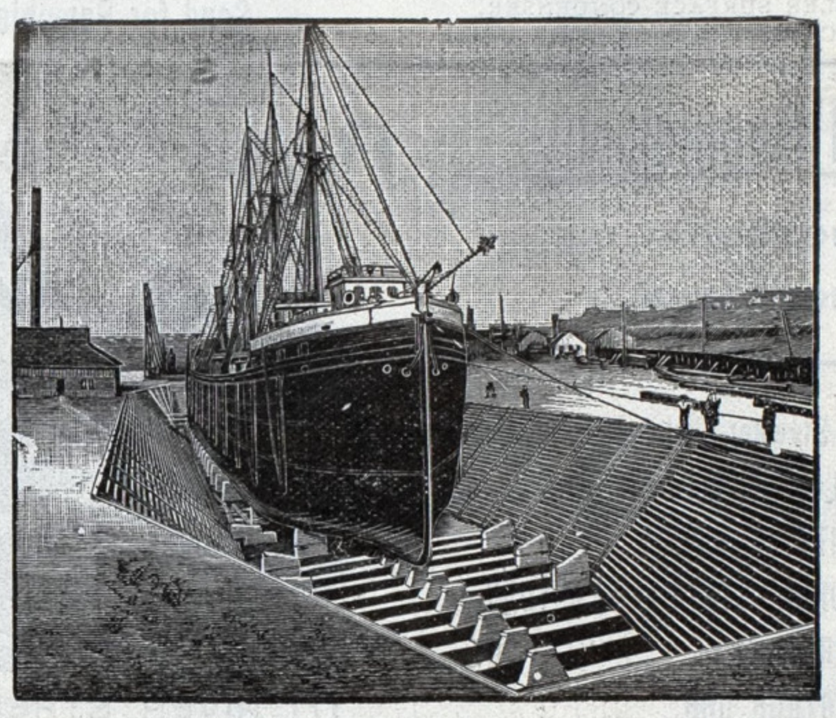

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